

- (a) collecting moisture within said cylindrical filter element; and
- (b) draining the moisture from the filter element through the lower end cap central aperture, by funneling the moisture along the funnel surface to the central aperture.
- 16. A method according to claim 15 wherein:
 - (a) the lower end cap includes an insert molded therein; the insert defining the funnel surface; and
 - (b) said step of draining includes funneling the moisture along the funnel surface of the insert.

A filter element comprising:

- (a) a cylindrical extension of media defining an open filter interior;
- (b) a first end cap at one end of said cylindrical extension of media; said first end cap having a central opening, and an annular sealing portion;
 - (i) said annular sealing portion comprising a polymeric material and being oriented to form a first radial seal with a housing, when the filter element is operably positioned in the housing;
- (c) a second end cap at an opposite end of said cylindrical extension of media; said second end cap having a central aperture, and an annular sealing portion;
 - (i) said second end cap annular sealing portion comprising a polymeric material and being oriented to form a second radial seal with a housing, when the filter element is operably positioned in the housing.

A filter element according to claim ** wherein:

(a) said first end cap annular sealing portion is oriented along an interior portion of said first end cap.





193/

A filter element according to claim wherein:

(a) said second end cap annular sealing portion is oriented along an outer portion of said second end cap.

20.

A filter element according to claim 18 wherein:

(a) said second end cap annular sealing portion is oriented along an outer portion of said second end cap.

24.5

A filter element according to claim 26 further including:

- (a) an inner support liner extending between said first and second end caps; and
- (b) an outer support liner extending between said first and second end caps.

6. Z.

A filter element according to claim 21 wherein:

- (a) said first end cap annular sealing portion comprises a compressible, foamed polyurethane; and
- (b) said second end cap annular sealing portion comprises a compressible foamed polyurethane.

7

A filter element according to claim 22 wherein:

- (a) said first end cap annular sealing portion is adjacent to said inner support liner; and
- (b) said second end cap annular sealing portion is adjacent to said outer support liner.

8

A filter element according to claim 23 wherein:

- (a) said central aperture in said second end cap comprises a drainage aperture; and
- (b) said second end cap includes an interior surface constructed and arranged to direct moisture on said second end cap interior surface to said drainage aperture.

A filter element according to claim 24 wherein:

(a) said second end includes an insert molded therein.

26. l

A filter element according to claim M wherein:

(a) said first end cap comprises a molded, polyurethane material;

61

District

- (b) said second end cap comprises a molded, polyurethane material; and
- (c) said cylindrical extension of media is potted within said first and second end caps.

البيج

10.

A filter element according to claim 26 further including:

- (a) an inner support liner potted within said first and second end caps; and
- (b) an outer support liner potted within said first and second end caps.
- 28. An air cleaner comprising:
 - (a) a housing having an interior and an annular sealing surface;
 - (b) an air filter element operably positioned in said housing interior; said air filter element including first and second opposite end caps, filter media, and an open filter interior;
 - (i) said first end cap having an air inlet opening;
 - (ii) said second end cap having a central drainage aperture and an outer, annular sealing portion;
 - (A) said outer annular scaling portion comprising a molded, polymeric material;
 - (c) a radial seal formed between said outer annular sealing portion of said second end cap and said annular sealing surface of said housing; and
 - an air flow direction arrangement constructed and arranged to direct air flow into said housing; into said open filter interior; through said filter media, and outwardly from said housing.
- 29. An air cleaner according to claim 28 wherein:
 - (a) said outer annular scaling portion comprises a compressible material;
 - (i) said radial seal being formed by compression of said compressible material against said annular sealing surface of said housing.
- 30. An air cleaner according to claim 29 wherein:
 - (a) said outer annular sealing portion comprises polyurethane foam.
- 31. An air cleaner according to claim 28 wherein:
 - (a) said housing includes an inlet construction;



X